REMARKS

Claims 10-14, 16-22, and 24-28 are pending in the present Application. Claims 10, 16, 17, 24, and 25 have been amended, claims 1-9, 15, and 23 have been previously cancelled, and claims 26-29 have been withdrawn, leaving claims 10-14, 16-22, and 24-25 for consideration upon entry of the present Amendment.

Support for the amendment to claim 10 can be found at least in Examples 6 to 11 in the Specification as originally filed on pp. 17, line 21 to pp. 25, and Table 4 on p. 22 of the specification as originally filed.

Also, claims 16, 17, 24, and 25 have been amended to properly depend from claim 10.

Reconsideration and allowance of the claims are respectfully requested in view of the above amendments and the following remarks.

Claim Rejections Under 35 U.S.C. § 102(b)/§ 103(a)

Claims 10-14, 16-22, and 24-25 stand rejected under 35 U.S.C. § 102(b) as being allegedly anticipated by Hinohara et al. (JP 2003-257479, hereinafter "Hinohara") as stated on p. 4 of the Office Action dated December 14, 2010. The Examiner states that Hinohara teaches all of the elements of claims 10-14, 16-22, and 24-25. (Office action dated December 14, 2010, p. 4)

Also, claims 10-14, 16-22, and 24-25 stand rejected under 35 U.S.C. § 102(b) as anticipated by or in the alternative, under 35 U.S.C. § 103(a) as being allegedly obvious over Hinohara as stated on pages 5-6 of the Office Action dated December 14, 2010. The Examiner states that Hinohara teaches all of the elements of claims 10-14, 16-22, and 24-25 and states that the additives would inherently have the claimed oxidation potential. (Office action dated December 14, 2010, p. 5-6) The Applicants respectfully traverse these rejections for at least the following reasons and address them together.

References to Hinohara are to the machine translation provided by the Examiner. Also, if the Examiner maintains a rejection over Hinohara, the Applicants respectfully request that the Examiner provide a full English translation of Hinohara. For example, because Hinohara

states, "...this invention consists only of a fluorine atom substituted aromatic compound ..." it is unclear what non-fluorinated electrolyte elements are taught in Hinohara.

To anticipate a claim, a reference must disclose each and every limitation of the claim. *Lewmar Marine v. Varient Inc.*, 3 U.S.P.Q.2d 1766 (Fed. Cir. 1987). Moreover, the single source must disclose all of the claimed elements "arranged as in the claim." *Structural Rubber Prods. Co. v. Park Rubber Co.*, 749 F.2d 707, 716, 223 U.S.P.Q. 1264, 1274 (Fed. Cir. 1984). Missing elements may not be supplied by the knowledge of one skilled in the art or the disclosure of another reference. *Titanium Metals Corp. v. Banner*, 778 F.2d 775, 780, 227 U.S.P.Q. 773, 777 (Fed. Cir. 1985).

For an obviousness rejection to be proper, the Examiner is expected to meet the burden of establishing why the differences between the prior art and that claimed would have been obvious. (MPEP 2141(III)) "A patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art." *KSR Int'l Co. v. Teleflex Inc.,* 127 S.Ct. 1727, 1741 (2007). To find obviousness, the Examiner must "identify a reason that would have prompted a person of ordinary skill in the art in the relevant field to combine the elements in the way the claimed new invention does." *Id.* Also, to establish *prima facie* obviousness of a claimed invention, the prior art references must teach or suggest all of the claim limitations. (MPEP 2143(A)(1))

Amended claim 10 recites a nonaqueous electrolyte comprising a first additive and a second additive, wherein the first additive and the second additive are respectively biphenyl and isopropylbenzene; vinylbenzene and ethylbenzene; toluene and t-butylbenzene; mesitylene and bromoethylbenzene; thiophene and cyclohexylbenzene; or furan and fluorobiphenyl.

Also, the Applicants disclose in Examples 6-11 the results of tests wherein the first additive and the second additive are respectively biphenyl and isopropylbenzene; vinylbenzene and ethylbenzene; toluene and t-butylbenzene; mesitylene and bromoethylbenzene; thiophene and cyclohexylbenzene; or furan and fluorobiphenyl. Specification, p. 22, Table 4. Surprisingly, the number of tests in which the battery caught fire was less with the inventive additives.

Hinohara teaches, "the aromatic hydrocarbon in which this invention consists only of a fluorine atom substituted aromatic compound, a carbon atom, and a hydrogen atom, …" (Hinohara, p. 3, [0013])

Based on the machine translation provided by the Examiner, Hinohara does not disclose or suggest the specific combinations claimed by the applicants. Also, Hinohara does not disclose or suggest furan, thiophene, or mesitylene, for example, and thus would not have prompted one of ordinary skill in the art to consider a combination comprising such a compound.

Thus Hinohara does not disclose, teach or suggest the particular combinations of additives claimed by the Applicants, namely a nonaqueous electrolyte solution wherein the first additive and the second additive are respectively biphenyl and isopropylbenzene; vinylbenzene and ethylbenzene; toluene and t-butylbenzene; mesitylene and bromoethylbenzene; thiophene and cyclohexylbenzene; or furan and fluorobiphenyl. Because Hinohara does not disclose the particular combinations of additives claimed by the Applicants, Hinohara does not anticipate amended independent claim 10.

Also, the instant claims are further nonobvious over Hinohara for at least the reason that Hinohara does not teach or suggest the specific combinations of additives claimed by the applicants.

Furthermore, the Applicants respectfully assert that the synergistic results disclosed by the Applicants further support the patentability of the instant claims. For example, the Applicants disclose in Examples 6 to 11 the results using the additives isopropylbenzene, vinylbenzene, toluene, mesitylene, thiophene, and furan with biphenyl, ethylbenzene, t-butylbenzene, bromoethylbenzene, cyclohexylbenzene, and fluorobiphenyl, respectively. (Specification, p. 22, Table 4) For at least the reason that Hinohara does not teach or suggest the first additives isopropylbenzene, vinylbenzene, toluene, mesitylene, thiophene, or furan, one of ordinary skill in the art would not have been prompted to consider adding such compounds to a nonaqueous electrolyte, let alone expect the unexpected and synergystic improvement in overcharge performance disclosed by the Applicants.

Accordingly, for at least these reasons, Abe does not anticipate or render obvious the subject matter of independent claim 10. Claims 11-14, 16-22, and 24-25 depend from claim 10, and thus include the allowable elements of claim 10. Thus the dependent claims are patentable over the cited references for at least the reasons given above for independent claim 10.

Accordingly, reconsideration, withdrawal of the rejection of claims 10-14, 16-22, and 24-25 under 35 U.S.C. § 102(b), or in the alternative under 35 U.S.C. § 103(a), and allowance of the instant claims are respectfully requested.

Conclusion

It is believed that the foregoing amendments and remarks fully comply with the Office Action and that the claims herein should now be allowable to Applicants. Accordingly, reconsideration and withdrawal of the objection(s) and rejection(s) and allowance of the case are respectfully requested.

Applicants hereby petition for any necessary extension of time required under 37 C.F.R. 1.136(a) or 1.136(b) or any other necessary fees(s), which may be required for entry and consideration of the present Reply.

If there are any additional charges due with respect to this Amendment or otherwise, please charge them to Deposit Account No. 06-1130 maintained by Applicants' Attorneys.

Respectfully submitted,

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